

**Birla Institute of Technology & Science, Pilani**  
**Department of Management**

**Ph.D. Qualifying Examination**

- Ph.D. Qualifying examination consists papers in 2 Sub Areas, Foundation A, Foundation B and Viva.
- Total marks are 400.

The breakup of the same is given below:

<b>Exam Components</b>	<b>Maximum Marks for theory</b>	<b>Maximum Marks for Viva</b>	<b>Total Maximum Marks</b>
Sub Area 1 + Foundation A	150 (Total duration: 3 Hours)	50	200
Sub Area 2 + Foundation B	150 (Total duration: 3 Hours)	50	200

- Candidates pursuing Ph.D. under the Department of Management are required to compulsorily take the foundation courses as part of Ph.D. qualifying examination.
- The candidate is required to select 2 Sub-areas from the list given below and atleast one of the selected sub-areas should be aligned with his/her proposed area of research work.
- The candidate is required to fill the titles of chosen sub-areas in the application for qualifying examination. All papers are of open book nature.

**Sub Areas are:**

1. Finance & Accounting
2. Marketing
3. Organizational Behavior & Human Resource Management
4. Operations Management & Decision Science
5. Information Technology & Technology Management
6. Strategy & Entrepreneurship

**Foundation Courses**

**Foundation A**

Fundamental concepts development of management theory, business forms, (proprietorship etc.); review of managerial functions (planning, organizing, staffing, leading and controlling), functional and strategic areas (Operation/production, Marketing, Finance and Personnel), Business communication in organizations and it's IT support & dynamics.

**Foundation B**

Scientific research and scientific approach, problems, hypotheses, multivariate behavioral research, constructs and variables, sets, relations, variance, probability, randomness, sampling, statistical analysis, cross-breaks, normal probability curves, hypothesis testing and standard errors, analysis of variance, designs of research, types of research, measurement, methods of observation and data collection, multiple regression, factor analysis.

## **Syllabus under each Sub Area is as follows:**

### **Finance & Accounting**

#### Content A

Basic concepts, double entry accounting, journal, ledger, trial balance, profit & loss account, balance sheet, cash flow statement, financial statement analysis, ratio analysis, cost - volume - profit analysis, inventory valuation, inflation accounting, cost accounting and budgetary control systems, financial analysis and forecasting.

#### Content B

Role and environment of managerial finance, time value of money (NPV, IRR), project feasibility, budgeting, long term investment decisions, long term financing decisions (LT & ST), capital structure, dividend decisions, short term financing decisions, working capital management, principles of corporate taxation, income tax, capital gains tax, tax laws and provisions, financial engineering.

### **Marketing**

#### Content A

Definition, marketing research and forecasting demand, creating customer value, satisfaction and loyalty, analyzing consumer and business markets, market segmentation, brand equity, brand positioning, product and pricing strategies, managing services, managing value networks and channels, integrated marketing communications, international marketing.

#### Content B

An examination of the concepts and practical methodology used in marketing research. An overview of marketing research process, with emphasis on research design; data instrument design; questionnaire formulation; sampling plans; data collection on methods - interviewing, panels; data analysis and use of computer based information systems for marketing intelligence. Also Time - series & Regression based models of sales forecasting, control and evaluation of marketing function and survey methodology are covered. Emphasis will be on cases and research projects.

### **Organizational Behavior & Human Resource Management**

#### Content B

Evolution and relevance; perception emotions and learning in an organizational set up; attitudes and values, groups and group processes, leadership, power and politics, organizational change, resistance and development, managing conflict.

#### Content A

Strategic human resource management, manpower planning, job analysis, recruitment and selection, placement, induction, training and development, appraising and managing performance, compensation, employee discipline, workplace safety and health, collective bargaining, industrial relations, human resource accounting and audit.

## **Operations Management & Decision Science**

### Content A

Product & service design, plant location, aggregate planning, capacity, process, layout, sequencing & scheduling, line balancing, maintenance, quality (control, assurance, management), statistical quality control, queuing theory, project management (CPM, PERT).

### Content B

Grouping data, measures of central tendency and dispersion, probability distribution, sampling and estimation, testing hypotheses, chi - square and analysis of variance, regression and correlation, non - parametric methods, time series and forecasting, index numbers, decision theory, linear programming, transportation and assignment problems, queuing theory, network problems, simulation; application of statistical software (SYSTAT, SPSS, SIMULA8, etc.) and spreadsheets.

## **Information Technology & Technology Management**

### Content A

Introduction to Information Systems; Concepts of management, concepts of information, systems concepts; Information Systems and Organizations; decision making process; database systems; data communications; planning, designing, developing and implementing information systems; quality assurance and evaluation of information systems; future developments and their organizational and social implications; decision support system and expert systems.

### Content B

Concept of technology, nature of technological change, economics of technology, corporate technology strategy, analysis for technology strategy, adoption and management of new technology, accounting for technology, appropriate technologies, transfer of technology, influence of government policies on technology, technology, management for sustainable development.

## **Strategy & Entrepreneurship**

### Content A

Mission, vision, strategic intent, hierarchical levels of strategy, PEST analysis, SWOT analysis, industry analysis, organizational analysis, BCG matrix, GE matrix, core competencies, five force theory, value chain, competitive advantage, generic strategies, diversification, strategy implementation and control.

### Content B

Fundamentals of entrepreneurship; elements of leadership; identifying business opportunities; market study and research; business plans; finance, issues in raising finance; venture capitalist evaluation of business plans, technical aspects for the project, corporate strategies for growth; legal aspect to entrepreneurship, people skills, marketing and branding; creativity and communication.